



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2

290 BROADWAY

NEW YORK, NY 10007-1866

NOV 03 2014

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Article Number: 7005 3110 0000 5967 7421

Andrea Hall Adebawale, Acting Director
Department of Water and Sewer Utilities
City of Newark
920 Broad Street, Room B-31F
Newark, New Jersey 07102

Re: In the Matter of: Newark Water Department, PWS ID: NJ0714001
Administrative Order Docket No. SDWA-02-2015-8003

Dear Ms. Adebawale:

Enclosed you will find an Administrative Order ("AO" or "ORDER"). Among other things, the AO finds that Newark Water Department is a public water supplier as defined by the Safe Drinking Water Act ("SDWA") and 40 C.F.R. §141.2, and is, therefore, subject to its requirements. The Environmental Protection Agency ("EPA") also finds that Newark Water Department failed to comply with the SDWA and New Jersey Department of Environmental Protection ("NJDEP") regulation N.J.A.C. 7:10.

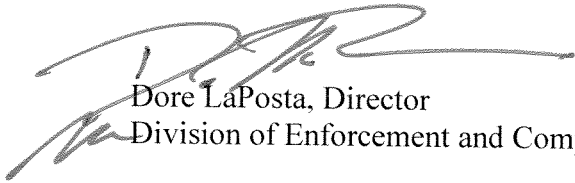
On June 11, 2014, EPA issued an Information Request and Administrative Order to Newark Water Department, Docket No. SDWA-02-2014-8018 ("2014 AO"), for violations of the SDWA and NJDEP applicable regulations. In response to the Administrative Order, by letter dated June 30, 2014, Newark Water Department submitted an action plan for the correction of identified violations and additional compliance data pursuant to the Information Request.

The enclosed AO supersedes the 2014 AO and includes a long term schedule to address violations identified during EPA's inspection conducted the week of February 10, 2014 and during subsequent review of compliance data provided during the February 2014 inspection and in response to the Information Request. The AO requires Newark Water Department to comply with the SDWA and NJDEP applicable regulations. Also enclosed is a report covering findings related to the review of the compliance data submitted.

I urge your cooperation in assuring the requirements of the enclosed AO are met. The violation of an AO may subject the violator to an administratively assessed civil penalty not to exceed \$37,500 per day of violation.

If you have any questions regarding this matter, please contact Nicole Foley Kraft, Chief, Groundwater Compliance Section at (212) 637-3093.

Sincerely,

A handwritten signature in dark ink, appearing to read 'D. LaPosta', with a long horizontal flourish extending to the right.

Dore LaPosta, Director

Division of Enforcement and Compliance Assistance

cc: Karen Fell, NJDEP
Marcedius Jameson, NJDEP
Andrew Pappachen, Newark Water Department
Richard Paull, NJDEP-Northern Bureau

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
290 BROADWAY
NEW YORK NY 10007-1866**

IN THE MATTER OF:

Newark Water Department
1294 McBride Avenue
Little Falls, NJ 07424

PWS ID: NJ0714001

Respondent

**ADMINISTRATIVE ORDER
Docket No.
SDWA-02-2015-8003**

I. STATUTORY AUTHORITY

The following findings are made and Order issued under the authority vested in the Administrator of the United States Environmental Protection Agency ("EPA") by Section 1414(g) of the Safe Drinking Water Act ("SDWA" or "the Act"), 42 U.S.C. Section 300g-3(g), and duly delegated to the Director of the Division of Enforcement and Compliance Assistance of Region 2.

II. FINDINGS

1. The City of Newark (hereinafter "Respondent") owns and/or operates the Newark Water Department "public water system", within the meaning of Section 1401(4) of the SDWA, 42 U.S.C. §300f(4), and 40 C.F.R. §141.2, with facilities located in Newark, Little Falls, Montclair and West Milford, New Jersey.
2. Respondent is a "supplier of water" within the meaning of Section 1401(5) of the SDWA, 42 U.S.C. §300f(5), and 40 C.F.R. §141.2.
3. Respondent is a "person" within the meaning of Section 1401(12) of the SDWA, 42 U.S.C. §300f(12), and is subject to an Administrative Order ("AO" or "ORDER") issued under Section 1414(g)(1) of the SDWA, 42 U.S.C. §300(g)-3(1).
4. Respondent's public water system ("PWS") provides water for human consumption. Respondent's PWS regularly serves at least 15 service connections used by year-round residents and/or serves a population of at least 25 individuals, and is therefore a "community water system" ("CWS"), as defined by Section 1401(15) of the SDWA, 42 U.S.C. §300f(15). Respondent is therefore, subject to the requirements of Part B of the SDWA, 42 U.S.C. §300g et seq., and its implementing regulations found at 40 C.F.R. Part 141.
5. The New Jersey Department of Environmental Protection ("NJDEP" or "State") administers the Public Water Supply Supervision Program in New Jersey pursuant to Section 1413 of the SDWA. The approval of primary enforcement responsibility from EPA to NJDEP was effective as of July 13, 1979. NJDEP is the primacy agency, as that term is defined in 40 C.F.R. §142.2. However,

on February 1, 2013, NJDEP referred the Newark Water Department PWS to EPA for further investigation and appropriate action as part of the EPA-NJDEP Inspection Workplan.

6. Pursuant to Section 1414(i)(4) of the SDWA, 42 U.S.C. §300g-3(i)(4), the implementing regulations for New Jersey's Safe Drinking Water Program (N.J.A.C. 7:10) are applicable requirements of the SDWA.
7. Pursuant to N.J.A.C. 7:10-11.6, auxiliary power shall be provided for a water supply source and/or treatment facility when such facility is a primary component of a water system and is indispensable to the effective operation of the water system.
8. Pursuant to N.J.A.C. 7:10-9.6(a) and (b), each supplier of water with an existing surface water filtration plant shall install a continuous analyzer/recorder to monitor the turbidity of the effluent from each individual filter by December 31, 2000. The accuracy of performance of each analyzer/recorder shall be verified by taking a grab sample of the effluent at least once in every 24-hour period.
9. Pursuant to 40 C.F.R. 141.174(a), PWSs using conventional or direct filtration must conduct continuous monitoring of turbidity for each individual filter and must calibrate turbidimeters using the procedure specified by the manufacturer. Systems must record the results of individual filter monitoring every 15 minutes.
10. Pursuant to 40 C.F.R. §141.21(e), PWSs must analyze any routine or repeat total coliform-positive samples for fecal coliforms or *E. Coli* and notify the State by the end of the day that results are received if fecal coliforms or *E. Coli* are present.
11. Pursuant to 40 C.F.R. §141.33, the owner or operator of a PWS must keep turbidity analysis for not less than 5 years; records of chemical analyses required pursuant to 40 C.F.R. Part 141 must be kept for not less than 10 years.
12. Pursuant to 40 C.F.R. §§141.201(a) and (b), each operator or owner of a PWS must give notice for all violations of national primary drinking water regulations, including violations to the maximum contaminant level (MCL), treatment techniques (TT), monitoring requirements and testing procedures. Public notice requirements are divided in three tiers, to take into account the seriousness of the violation or situation and of any potential adverse health effect that may be involved.

Findings of Violation

13. On February 10-14, 2014, EPA and NJDEP conducted a sanitary survey at Respondent's PWS. Pursuant to 40 C.F.R. §141.723, a sanitary survey is an onsite review of the water source, facilities, equipment, operation, maintenance, and monitoring compliance of a PWS to evaluate the adequacy of the PWS, its source and operations, and the distribution of safe drinking water. Based on the evaluation of records for the period of January 2011 through February 2014 and an inspection of the Newark Water Department PWS, it was observed that:

- a. Back-up power was not available at the Wayne pump station, in violation of N.J.A.C. 7:10-11.6.
- b. Respondent failed to verify the accuracy of each IFE turbidimeter at least once in every 24-hour period on multiple dates each month from January 1, 2011 through February 28, 2014, in violation of N.J.A.C. 7:10-9.6(b).
- c. On April 17, 2014, NJDEP notified Newark Water Department that it was in violation of 40 C.F.R. 141.174(a) for failure to continuously monitor individual filter effluent (IFE) turbidity from January 1, 2011 through February 28, 2014. Although continuous monitoring equipment is installed, the IFE turbidimeters had been set such that the maximum level recorded was 1.05 NTU since at least January 2011. According to operators, the maximum level recorded was changed to 1.58 NTU at some point in 2013. Thus, any IFE readings above the maximum level were recorded as either 1.05 or 1.58 NTU. This violation has been recorded in New Jersey Drinking Water Watch and public notification has been performed.
- d. Respondent's total coliform sample siting plan for Newark Water Department, dated June 26, 2014, does not designate the number of routine samples to be collected each monitoring period, only the number of required routine samples based on population, or a justification for the additional routine samples that are collected each month, in violation of 40 C.F.R. §141.21(a). The plan also does not designate the frequency of sample collection at each sample site or a sample collection schedule. In addition, the plan must be updated to include sample collection procedures, sample container preparation and transport procedures and protocol for testing disinfectant residual at the same time and location of microbiological sample collection (see NJDEP Guidance for Developing a Coliform Sample Siting Plan).
- e. Respondent failed to analyze a total coliform-positive routine sample for the presence of fecal coliforms or *E. Coli* for the April 2011 compliance period, in violation of 40 C.F.R. §141.21(e). All three repeat samples were total coliform-negative. NJDEP issued a Notice of Violation for this violation. Newark Water Department must provide documentation that public notification for failure to monitor was done in a timely manner.
- f. Respondent failed to analyze a total coliform-positive routine sample for the presence of fecal coliforms or *E. Coli* for the June 2013 compliance period, in violation of 40 C.F.R. §141.21(e). All three repeat samples were total coliform-negative. NJDEP issued a Notice of Violation for this violation. Newark Water Department must provide documentation that public notification for failure to monitor was done in a timely manner.
- g. Respondent failed to conduct TTHM and HAA5 monitoring during the month of June 2012, as required under its Stage 2 DBPR Compliance Monitoring Plan, in violation of 40 C.F.R. §141.622(a). NJDEP issued a Notice of Violation for this violation. Newark Water Department must provide documentation that public notification for failure to monitor was done in a timely manner.
- h. Based on information provided to NJDEP, Respondent has made a significant change to its disinfection practice without consulting with the State prior to making such change, in violation of 40 C.F.R. 141.172(c).
- i. Respondent failed to maintain records of CFE turbidity continuous monitoring data prior to February 2013, in violation of 40 C.F.R. §141.33 and N.J.A.C. 7:10-9.6(a).
- j. Respondent failed to maintain records of continuous monitoring data for chlorine

residual entering the distribution system prior to February 2013, in violation of 40 C.F.R. §141.33 and N.J.A.C. 7:10-9.6(h).

Significant Deficiencies

14. Pursuant to 40 C.F.R. §141.723, a significant deficiency includes a defect in design, operation, maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution system that EPA determines to be causing, or has the potential for causing the introduction of contamination into the water delivered to consumers.
15. Based on the inspection and file review of records, including correspondence between NJDEP and Respondent regarding disinfectant contact time and a Comprehensive Performance Evaluation ("CPE") report dated July 2014, the following significant deficiencies were identified:
 - i. The most recent inspection report of the Belleville storage tank could not be located. Newark PWS management was unsure if it had ever been inspected.
 - ii. Respondent currently operates an uncovered finished water reservoir, Cedar Grove Reservoir. According to 40 CFR Part 141.714 (c) (1) or (2), Respondent is required to do one of the following: *"(1) Systems must cover any uncovered finished water storage facility or (2) Systems must treat the discharge from the uncovered finished water storage facility to the distribution system to achieve inactivation and/or removal of at least 4-log virus, 3-log Giardia lamblia, and 2-log Cryptosporidium using a protocol approved by the State."*

EPA inspectors understand that Respondent has made a treatment proposal submittal for the Cedar Grove Reservoir to the State of New Jersey and are awaiting a regulatory decision.
 - iii. Based on the CPE report dated July 2014, backwash and surface wash pumps are not routinely calibrated. Raw water and recycled backwash water flow meters are also not routinely calibrated. Operators stated during the CPE that they do not have complete confidence in treatment plant flow rates and pumping capacities which impacts ability to flow pace chemical additions and ensure proper backwash rates.
 - iv. Based on the CPE report dated July 2014, a comprehensive filter study is needed to assess the condition of all twelve (12) dual-media filters. At a minimum, the filter study should include filter probing, core sampling, media extraction, floc particle retention analysis, and examination of the underdrain system.
16. By letter dated June 2014, EPA notified Respondent of the significant deficiencies identified in paragraphs 15.i and 15.ii. Respondent had forty-five (45) days from receipt of letter to provide a corrective action plan.
17. On June 11, 2014, EPA issued a combined Information Request and Administrative Order, Docket No. SDWA-02-2014-8018, requiring Respondent to address the violation described in paragraph

13.a and the significant deficiencies in paragraphs 15.i and 15.ii. It also requested submittal of additional information to evaluate compliance.

18. On June 30, 2014, Newark Water Department submitted action plans for the correction of the identified violation and significant deficiencies, and additional compliance data pursuant to the Information Request.
19. By letter dated November 2014, EPA notified Respondent of the significant deficiencies identified in paragraphs 15.iii and 15.iv. Respondent has forty-five (45) days from receipt of letter to provide a corrective action plan.
20. EPA is issuing this Administrative Order to place Respondent on an enforceable schedule to comply with the requirements of the SDWA and NJDEP applicable regulations.

III. ORDER

Based upon the foregoing Findings of Fact and Conclusions of Law and pursuant to the authority of Sections 1414(g) of the SDWA, 42 U.S.C. §300g-3(g), Respondent is hereby ORDERED to do the following:

A. Installation of Auxiliary Power at Wayne Pump Station

21. Within ten (10) days of receipt of this ORDER, Respondent shall submit a signed and dated certification to EPA and NJDEP that advertisement for bids to evaluate, design and supervise construction of auxiliary power at Wayne pump station has been completed.
22. By January 31, 2015, Respondent shall award contract to evaluate, design and supervise construction of auxiliary power at Wayne pump station.
23. By September 30, 2015, Respondent shall complete final design work for installation of auxiliary power at Wayne pump station.
24. By November 30, 2015, Respondent shall obtain all necessary federal, state and local permits for installation of auxiliary power at Wayne pump station.
25. By January 31, 2016, Respondent shall advertise for bids for installation of auxiliary power at Wayne pump station.
26. By March 31, 2016, Respondent shall award contract for installation of auxiliary power at Wayne pump station.
27. By October 31, 2016, Respondent shall complete installation of auxiliary power at Wayne pump station.

B. Belleville Tank Inspection/Cleaning

28. Within ten (10) days of receipt of this ORDER, Respondent shall submit a signed and dated certification to EPA and NJDEP that advertisement for bids to conduct a hydraulic study of the Newark distribution system, develop an operational plan to take the Belleville Tank out of service, and prepare plans and specifications to inspect and clean the tank has been completed.
29. By January 31, 2015, Respondent shall award contract for the inspection and cleaning of the Belleville Tank.
30. By July 31, 2015, Respondent shall complete final design work for the inspection and cleaning of the Belleville Tank.
31. By August 31, 2015 Respondent shall advertise for bids for the inspection and cleaning of the Belleville Tank.
32. By December 31, 2015, Respondent shall award contract for the inspection and cleaning of the Belleville Tank.
33. By June 30, 2016, Respondent shall complete inspection and cleaning of the Belleville Tank.

C. Interim Enhanced Surface Water Treatment Rule

34. Effective immediately, Respondent shall not make any significant changes to its disinfection practice, as defined at 40 C.F.R. 141.172(c), without submitting justification to NJDEP and receiving approval for such modification.
35. Within ninety (90) days of receipt of this ORDER, Respondent must develop a disinfection profile to calculate its disinfection benchmark based on one year of profiling data. Respondent must also conduct a chlorine tracer study to re-establish travel time to the Sample House or provide engineering calculations for CT inactivation in lieu of tracer study confirming the detention times.

D. Other

36. Within forty-five (45) days of receipt of this ORDER, Respondent must submit to EPA and NJDEP, for evaluation and approval, an action plan for the correction of violations identified in paragraphs 13.b, 13.d and 13.h above. The action plan must detail the steps that Respondent will take to return to compliance, including milestones and completion dates.
37. Within forty-five (45) days of receipt of this ORDER, Respondent must notify the public of the failure to comply with drinking water standards or provide documentation that public notice was performed, as indicated in paragraphs 13.e, 13.f and 13.g. A copy of the public notice and certification that it was completed must be submitted to EPA and NJDEP within ten (10) days of its completion.
38. Respondent must provide quarterly progress reports to USEPA and NJDEP describing all design and construction activities taking place in the previous quarter under sections III.A and III.B of this

ORDER, and those activities anticipated for the upcoming quarter. Reports must include a section on the status of the completion (e.g. percent complete) for the various phases of the project (i.e. design, permitting, construction). Upon the effective date of this ORDER, reports must be submitted by the 15th of the month following each calendar quarter (January 15, April 15, July 15, October 15) until full compliance with this ORDER is achieved. For each milestone set forth in paragraphs 21 through 33 of this ORDER, the report and certification must state whether Respondents have fully met that milestone and, if not, the work remaining to achieve full compliance with such milestone, and a schedule for completion of such work, a description of any noncompliance, or known or anticipated delay which may affect compliance with any future milestone, the duration of any expected delay, and a statement of any corrective action taken or to be taken to address such noncompliance and/or to minimize delay.

39. All notices, reports, or other submissions by Respondents must contain the following certification:

“I certify, under penalty of law, that the information contained in or accompanying this submission is true, accurate and complete based upon representations as to accuracy and completeness made to me either orally or through submission of documentation by appropriate personnel with responsibility for the matters contained herein.”

40. All information required to be submitted by this Order to EPA and NJDEP shall be mailed to:

Nicole Foley Kraft, Chief
Groundwater Compliance Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866
(212) 637-3093

and

Richard Paull, Manager
Bureau of Water Compliance and Enforcement-Northern
New Jersey Department of Environmental Protection
7 Ridgedale Avenue
Cedar Knolls, NJ 07927

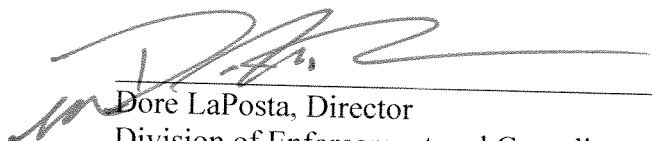
IV. GENERAL PROVISIONS

41. Notwithstanding Respondent's compliance with any requirement of this Order, Respondent's failure to comply with all of the requirements of the Act and Part 141 may subject Respondent to additional enforcement action, including but not limited to judicial, administrative and equitable actions.
42. This Administrative Order shall not prohibit, prevent, or otherwise preclude EPA from taking whatever action it deems appropriate to enforce the Act in any manner and shall not prohibit, prevent, or otherwise preclude EPA from using this Order in subsequent administrative or judicial proceedings. Nothing in this Order shall constitute a waiver, suspension or modification of the

requirements of the Act, or the rules and regulations promulgated thereunder which remain in full force and effect. Issuance of this Order is not an election by EPA to forgo any civil or criminal action otherwise authorized under the Law.

43. The Respondent may be subject to an administrative civil penalty of up to \$32,500 pursuant to Section 1414(g)(3)(B) of the Act, 42 U.S.C. §300g-3(g)(B) or a civil penalty assessed by an appropriate United States District Court that exceeds \$32,500 pursuant to Section 1414(g)(3)(C) of the Act, 42 U.S.C. §300g-3(g)(3)(C). A violation of any term of this Order may also subject the Respondent to a judicial civil penalty of up to \$37,500 per day per violation pursuant to Section 1414(b) of the Act, 42 U.S.C. §300g-3(b).
44. Respondent may seek federal judicial review of the Order pursuant to Section 1448(a) of the Act, 42 U.S.C. §300j-7(a).
45. This Order does not relieve Respondent of any responsibilities or liabilities established pursuant to any applicable federal, State or local law.
46. This Administrative Order shall take effect upon the signature of the Director, Division of Enforcement and Compliance Assistance.

ORDERED, this 3rd day of November, 2014.



Dore LaPosta, Director
Division of Enforcement and Compliance Assistance

Public Water System File Review/Inspection Report Newark Water Department (NJ0714001)

EPA and NJDEP conducted a sanitary survey of the Newark Water Department public water system (PWS) the week of February 10, 2014. On June 11, 2014, EPA issued a combined Information Request and Administrative Order (AO), Docket No. SDWA-02-2014-8018, to Newark Water Department for failure to provide auxiliary power equipment at the Wayne pump station. A data review of records pertaining to the Safe Drinking Water Act (SDWA) and applicable regulations for the compliance period of January 1, 2011 through September 30, 2014 was conducted based on data reviewed on-site the week of February 10 and additional data submitted in response to the AO. Subsequent correspondence between NJDEP and Newark Water Department, including information pertaining to disinfectant contact time and a Comprehensive Performance Evaluation report dated July 2014, were also reviewed. The findings below supplement the sanitary survey report prepared by the National Environmental Investigations Center, transmitted on June 11, 2014, which covers treatment plant and field components of Newark Water Department PWS.

Violations

I. Individual Filter Effluent (IFE) Turbidity

1. Based on monthly reports of daily individual filter turbidity grab samples, Newark Water Department failed to verify the accuracy of each IFE turbidimeter at least once in every 24-hour period on multiple dates each month from January 1, 2011 through February 28, 2014, in violation of N.J.A.C. 7:10-9.6(b).
2. On April 17, 2014, NJDEP notified Newark Water Department that it was in violation of 40 C.F.R. 141.174(a) for failure to continuously monitor individual filter effluent (IFE) turbidity from January 1, 2011 through February 28, 2014. Although continuous monitoring equipment is installed, the IFE turbidimeters had been set such that the maximum level recorded was 1.05 NTU since at least January 2011. According to operators, the maximum level recorded was changed to 1.58 NTU at some point in 2013. Thus, any IFE readings above the maximum level were recorded as either 1.05 or 1.58 NTU. This violation has been recorded in New Jersey Drinking Water Watch and public notification has been performed.

II. Total Coliform Rule

3. The total coliform sample siting plan for Newark Water Department, dated June 26, 2014, does not designate the number of routine samples to be collected each monitoring period, only the number of required routine samples based on population, or a justification for the additional routine samples that are collected each month, in violation of 40 C.F.R. §141.21(a). The plan also does not designate the frequency of sample collection at each sample site or a sample collection schedule. In addition, the plan must be updated to include sample collection procedures, sample container preparation and

transport procedures and protocol for testing disinfectant residual at the same time and location of microbiological sample collection (see NJDEP Guidance for Developing a Coliform Sample Siting Plan).

4. Based on review of total coliform monitoring data, Newark Water Department failed to analyze a total coliform-positive routine sample for the presence of fecal coliforms or *E. Coli* for the April 2011 compliance period, in violation of 40 C.F.R. §141.21(e). All three repeat samples were total coliform-negative. NJDEP issued a Notice of Violation for this violation. Newark Water Department must provide documentation that public notification for failure to monitor was done in a timely manner.
5. Based on review of total coliform monitoring data, Newark Water Department failed to analyze a total coliform-positive routine sample for the presence of fecal coliforms or *E. Coli* for the June 2013 compliance period, in violation of 40 C.F.R. §141.21(e). All three repeat samples were total coliform-negative. NJDEP issued a Notice of Violation for this violation. Newark Water Department must provide documentation that public notification for failure to monitor was done in a timely manner.

III. Stage 2 Disinfectant and Disinfection Byproducts Rule

6. Based on review of Stage 2 Disinfectant and Disinfection Byproducts Rule (Stage 2 DBPR) monitoring data, Newark Water Department failed to conduct TTHM and HAA5 monitoring during the month of June 2012, as required under its Stage 2 DBPR Compliance Monitoring Plan, in violation of 40 C.F.R. §141.622(a). NJDEP issued a Notice of Violation for this violation. Newark Water Department must provide documentation that public notification for failure to monitor was done in a timely manner.

IV. Interim Enhanced Surface Water Treatment Rule

7. Based on information provided to NJDEP, Respondent has made a significant change to its disinfection practice without consulting with the State prior to making such change, in violation of 40 C.F.R. 141.172(c). In addition to consulting with the State, Respondent must develop a disinfection profile to calculate its disinfection benchmark based on one year of profiling data. Respondent must also conduct a chlorine tracer study to re-establish travel time to the Sample House or provide engineering calculations for CT inactivation in lieu of tracer study confirming the detention times.

V. Record Maintenance

8. Based on review of Combined Filter Effluent (CFE) turbidity monitoring data, Newark Water Department failed to maintain records of CFE turbidity continuous monitoring data prior to February 2013, in violation of 40 C.F.R. §141.33 and N.J.A.C. 7:10-9.6(a).
9. Based on review of chlorine residual monitoring data, Newark Water Department failed to maintain records of continuous monitoring data for chlorine residual entering the

distribution system prior to February 2013, in violation of 40 C.F.R. §141.33 and N.J.A.C. 7:10-9.6(h).

Significant Deficiencies

1. Based on the CPE report dated July 2014, backwash and surface wash pumps are not routinely calibrated. Raw water and recycled backwash water flow meters are also not routinely calibrated. Operators stated during the CPE that they do not have complete confidence in treatment plant flow rates and pumping capacities which impacts ability to flow pace chemical additions and ensure proper backwash rates.
2. Based on the CPE report dated July 2014, a comprehensive filter study is needed to assess the condition of all twelve dual-media filters. At a minimum, the filter study should include filter probing, core sampling, media extraction, floc particle retention analysis, and examination of the underdrain system.

Findings/Observations

1. In a letter dated April 17, 2014, NJDEP notified Newark Water Department that it had triggered the Comprehensive Performance Evaluation (CPE) requirements found at 40 C.F.R. 141.175(b)(4). Based on the IFE turbidimeter settings described in paragraph I.2 above, there were many instances where two consecutive IFE turbidity readings could have exceeded 2.0 NTU in readings taken fifteen minutes apart in two consecutive months for that period. The letter required Newark Water Department to do the following:
 - a) conduct Tier 2 public notification of the failure to conduct IFE turbidity monitoring within thirty days of the letter in accordance with 40 C.F.R. 141.203;
 - b) conduct a Comprehensive Performance Evaluation (CPE) and Corrective Technical Assistance (CTA) as required by 40 C.F.R. 141.175(b)(4);
 - c) submit a proposal to evaluate technical, managerial and financial capacity to NJDEP within ninety days of the date of the letter, as per N.J.A.C. 7:10-2.7, to be carried out and submitted as a final report to NJDEP within ninety days of approval.
2. A CPE was conducted at Pequannock Water Treatment Plant during the week of May 19, 2014 by Aquamize, LLC. The CPE report, submitted in July 2014, cited several performance limiting factors and recommendations for improvement in addition to the significant deficiencies listed above. Key recommendations of the CPE included the following:
 - a) *Plant Supervision/Administration*: increased span of control and operation authority to plant supervisors and operators, establishment of collaborative standard operating procedures that focus on optimization goals for increased plant

performance, and better lines of communication between public works, plant operating staff and City Hall;

- b) *Financial Management*: establishment of water rates that accurately reflect operation costs, infrastructure repair and replacement costs, long term capitalization costs, and plant personnel costs;
 - c) *Filter Performance*: each filter should be thoroughly examined to determine its true condition through filter probing, core sampling, media extraction, floc particle retention analysis, and other special studies.
3. Stage 2 DBPR laboratory analytical results for the fourth quarter of 2012 show two samples taken for 300 N. 13th Street (Sample Point SM17) and zero samples taken for St. James Hospital, 155 Jefferson Street (Sample Point SM22). Comparison of the sample ID numbers with the chain of custody sheet demonstrates that one sample was indeed taken for each location, but the sample locations are mislabeled on the laboratory analytical results sheet from New Jersey Analytical Laboratories.
4. Review of Stage 2 DBPR monitoring results reveal an unusually high number of exactly the same measurements at different sites during the same compliance period, suggesting the possibility that some of the results may have been transposed or inaccurately reported. For example, TTHM results for 521 Ivy Hill Plaza and 801 N. 6th Street were exactly the same for two consecutive quarters (second and third quarters of 2013), 55 mg/l and 26.5 mg/l respectively. Also, four out of twelve HAA5 sample locations had exactly the same analytical result (37 mg/l) during the first quarter of 2013.
5. The following secondary monitoring results were outside the recommended upper limits or optimum range, N.J.A.C. 7:10-7.2:
- a. TP003008, 10/4/11
Aluminum = 0.368 mg/l
 - b. TP003008, 11/2/11
Corrosivity = -0.735 mg/l

Information to be submitted to EPA

In addition to complying with the enclosed Administrative Order, within forty-five (45) days of receipt of this letter, please submit to EPA and NJDEP information on the actions Newark Water Department will take to address the violations, significant deficiencies and findings/observations identified above. Each significant deficiency must include an action plan with deadlines for its correction.

Also, based on review of the data submitted to EPA, the following additional information is needed to evaluate compliance. Please note that any of the requested items may be submitted electronically:

1. Copies of laboratory bench analysis sheets for all Total Coliform Rule compliance samples taken between January 1, 2013 and December 31, 2013, indicating total coliform and residual chlorine results for each sample;
2. A distribution system map identifying all Total Coliform Rule sample locations as part of the current Total Coliform Rule sampling plan;
3. Copies of the *Giardia* and Virus Inactivation by Disinfection Worksheet (example enclosed) showing all parameters used to calculate Contact Time and *Giardia* virus log inactivation for the period of January 1, 2011 through February 1, 2014.
4. Signed and dated copies of NJDEP Form BSDW-023, "Individual Filter Exception Report" submitted for the periods of January 1, 2011 through October 31, 2013 and December 1, 2013 through February 1, 2014.
5. Documentation of filter backwashes for the period of February 17, 2011 through February 23, 2011 and for March 16, 2011 through March 20, 2011, including filter number, date, time and duration of the backwash.
6. Daily Operating Reports for December 6, 2013 through December 16, 2013.

